85

NEWS LETTER

OF THE

BUREAU OF ENTOMOLOGY

U. S. DEPARTMENT OF AGRICULTURE.

NUMBER 5.

AUGUST, 1914.

LIBRARY.

New Books.

Annals of applied biology (quarterly). Vol. 1, No. 1, May, 1914 The official organ of the Association of economic biologists; edited by Professor Maxwell Lefroy and others. Cambridge University Press, London. Agents for the United States: The University of Chicago Press, $6.00 per year.

Adams, C. C. Guide to the study of animal ecology. N. Y. 1913. 183p. illus. 19½cm.

Miller, Mrs. E. B. Robertson. Butterfly and moth book; personal studies and observations of the more familiar species. N. Y., C. Scribner's sons, 1912. $1.50.

Needham, J. G. The natural history of the farm. Ithaca, N. Y., 1913.

Bee Culture Investigations.

E. F. Phillips, In Charge.

The office, laboratories and apiary of the investigations in bee culture have recently been moved to Drummond, Md. The work heretofore has been scattered and it has now been possible to assemble the various lines of work in one place.

The house was formerly occupied as a residence but is admirably adapted to office and laboratory uses. It contains 10 rooms and all necessary conveniences are available. There is a cellar under the entire house where the work on wintering formerly carried on in the Zoological Laboratory of the University of Pennsylvania will be done.

Surrounding the house is a lot of about ¾ acre admirably suited for an apiary. The grounds are so arranged that the main apiary is on one side of the house while colonies under special observations are placed on the other side.

The new laboratory may be reached on the Wisconsin Avenue line. At the end of the city fare zone, walk one block north and then to the left. The laboratory is next to the last house on the right hand side of the street.

Telephone Cleveland 998 (Washington exchange). All mail, telegrams, express and freight should be sent to the main Bureau office, as formerly.

For the present the bacteriological work will remain in the Insectary of the Bureau.

Cereal and Forage Insect Investigations.

F. M. Webster, In Charge.

The family Crambidae, and especially the genus Crambus, contains a great number of species of small moths, all or most of which have the potentialities of serious pests. Injury is most likely to be done to hay and pasture crops but often occurs to grain or cultivated crops following sod. The larvae live in silk and earthen burrows, feeding at night and generally on the blades of the plants.

The moths are extremely abundant and common, flying just at dusk in almost every piece of grassland. In spite of their abundance information regarding many of the species is surprisingly meager. Larvae taken in the field have been reared in comparatively few instances and, so far as we have been able to find, no species has ever been reared completely through from egg to adult.

We have undertaken an extensive study of the group and shall need help in getting material from as many localities as possible. So far as known all the species are single brooded so collections will have to be made throughout the season to get the range of species present. Geographical distribution, seasonal occurence and preferred food plant can be obtained from collections of moths taken at light and in the field if the date, locality, and general nature and flora of the habitat (if taken in the field) be noted. The moths can be best sent if pinned, although unmounted material will be of use if sent firmly packed with soft paper in small boxes. The moths usually oviposit freely if confined alive in dry vials. The eggs hatch in 5 to 10 days in warm weather so any such material obtained should be promptly forwarded. Especially should care be taken if eggs are sent, to connect the eggs with the individual moth which laid them in some unmistakable manner.

The assistance of all the men in this Division and others interested is solicited in collecting material and information.

Geo. G. Ainslie, Nashville, Tenn.

DECIDUOUS FRUIT INSECT INVESTIGATIONS.

A. L. Quaintance, In Charge.

Beginning with the fiscal year 1915 a new project was undertaken, namely, an investigation of the insects injurious to deciduous nursery stock, with especial reference to developing remedies and apparatus suitable for insect control under nursery growing conditions. Mr. A. J. Ackerman, of the Massachuetts Agricultural College, has been employed and assigned to this work, with headquarters for the present at West Chester, Pa.

FOREST INSECT INVESTIGATIONS.

A. D. Hopkins, In Charge.

Evetria buoliana Schiff.

Specimens of Scotch pine recently received from a correspondent on Long Island, New York, were found infested by this European moth, which appears to be the first evidence of its introduction into and establishment in this country. This insect is regarded by leading foresters in Europe as the most injurious insect to Pinus sylvestris. Mr. August Busck is at present on Long Island investigating its distribution, etc.

Mr. E. R. Speyer of England, recently lecturer in Economic Entomology and Research Officer in the diseases of trees to the Delegacy for Forestry at Oxford University, is at present in Washington as one of the Carnegie scholars appointed by the Imperial Bureau of Entomology, South Kensington, London, for the special purpose of studying the field methods of controlling Scolytidae with Dr. Hopkins, prior to taking up his appointment by the Ceylon Government as investigator of the shot-hole borer beetle of tea in Ceylon.

Mr. F. Paul Keen of the University of California has been appointed Entomological Ranger to take effect August 1, and assigned to duty at the Pacific Slope Sub- Station at Ashland, Oregon, under John M. Miller, in charge of the station.

Mr. Frank B. Herbert, also of the University of California, has been appointed Entomological Ranger to take effect November 1, and assigned to duty at the Pacific Slope Field Station at Placerville, California, under H. E. Burke, in charge.

Mr. J. C. Evenden, of the Oregon State Agricultural College, has been appointed Entomological Ranger, to take effect October 1, and was assigned to duty at the Northern Rocky Mountain Field Station at Missoula, Montana, under Josef Brunner, in charge.

Mr. John H. Pollock, of the State Agricultural College of Colorado, has been appointed Entomological Ranger, to take effect September 1, and was assigned to duty at the Southern Field Station at Colorado Springs, Colorado, under W. D. Edmonston, in charge.

PREVENTING SPREAD OF MOTHS.

A. F. Burgess, In Charge.

Mr. Detmar W. Jones, a graduate of the Massachuetts Agricultural College, has been appointed Scientific Assistant and assigned to parasite investigations at the Gypsy Moth Laboratory, Melrose Highlands, Mass.

Mr. O. D. Ingall, a graduate of the Yale Forest School, who for several years was employed by the United States Forest Service, has been appointed Assistant in Farm Management in the Bureau of Entomology

and is conducting sylvicultural investigations in connection with the gipsy moth work.

Mr. Harrison E. Smith is engaged in work for the Branch of Cereal and Forage Crop Insect Investigations for the Bureau of Entomology and is located for the summer at the Gypsy Moth Laboratory, Melrose Highlands, Mass. Mr. Smith is collecting Calosoma sycophanta and Compsilura concinnata, two imported natural enemies of the gypsy moth that have become well established in New England and shipping large numbers of these species to New Mexico where an attempt will be made to colonize them as enemies of the range caterpillar.

M . L. S. McLaine, assistant to Dr. C. Gordon Hewitt, Dominion Entomologist of Canada, is [illegible] at the Gypsy Moth Laboratory for the summer. Mr. McLaine and three assistants are collecting parasites and natural enemies of the gypsy moth and the brown-tail moth for shipment to Nova Scotia and New Brunswick where an attempt will be made to colonize these species.

Mr. Russel Ferguson, Assistant to the Superintendent of Moth Work in Maine, with several assistants is collecting parasites of the gypsy moth and the brown-tail moth for colonization in that State.

During the first week in June Mr. A. F. Burgess visited the sections of New Brunswick and Nova Scotia which are known to be infested by the brown-tail moth, as the guest of Dr. C. Gordon Hewitt, Dominion Entomologist.

Mr. A. P. Sandles, Chairman of the Agricultural Commission of Ohio and Mr. N. E. Shaw, State Nursery Inspector of Ohio, spent several days in June investigating gipsy moth and brown-tail moth conditions in the infested area in New England.

Mr. J. S. Houser, Associate Entomologist of the Ohio Agricultural Experiment Station, Wooster, Ohio, spent several days in eastern Massachusetts scouting work which is being done on shade tree insects, including the gypsy moth and the brown-tail moth. He visited the Gypsy Moth Laboratory at Melrose Highlands, Mass. while in New England.

Mr. Raphael Zon, [illegible] in the U. S. Forest Service, spent several days in the gypsy moth infested territory examining the forest [illegible] to the sylvicultural investigations which are being carried on cooperatively by the Bureau of Entomology and the Forest Service.

On June 22 the Federal Horticultural Board gave a hearing at Washington relative to extending the present territory which is quarantined on account of infestation by the gypsy moth and the brown-tail moth. Messrs. A. F. Burgess, D. M. Rogers and L. H. Worthley represented this branch of the work at the hearing. A number of Entomologists from New England and several nursery men were also present.

Mr. Wilfred Wheeler, Secretary of the Massachusetts State Board of Agriculture, attended the hearing and represented the Agricultural interests of that State.

Dr. C. Gordon Hewitt, Dominion Entomologist of Canada inspected the field and parasite work on the gypsy moth and the brown-tail moth during the last week in June.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS.

W. D. Hunter, In Charge.

W. D. Hunter recently returned from a trip of inspection of the work in progress at Dallas, Tex., Tobacco, Ariz., and in the Bitter Root Valley of Montana.

The following new men have been temporarily engaged for tobacco hornworm demonstration work in Tennessee and Kentucky: O. M. Shelby, E. C. Crockett, J. U. Gilmore, H. B. McKinney, F. G. Sorrels, R. K. Catlett, A. D. Bosley and J. E. McMurtrey.

MISCELLANEOUS INSECTS.

The following new men have been temporarily engaged for work on the malarial survey at Mound, La: Ed. Foster, J. K. Thibault, Jr., W.W. Kimball and F. H. O'Neil.

TRUCK CROP AND STORED PRODUCT INSECT INVESTIGATIONS

F. H. Chittenden, In Charge.

Mr. John E. Graf, who has been working on the potato-tuber moth, wireworms affecting sugar cane, and other insects affecting sugar beets and potatoes, with other members of the force of the Bureau, has removed from his old headquarters at Whittier to Pasadena, Cal.

Mr. H. K. Laramore has been appointed field assistant to work with Mr. High at Knox, Ind., in investigations of the onion thrips and other insects affecting onions and other vegetable and truck crops.

Mr. Thomas H. Jones, after an absence of some months for study in Washington D. C., and Masschuetts, has returned to his former headquarters, The Sugar Producers' Experiment Station, Rio Piedras, P. R.,

Mr. A. B. Duckett, has returned from a trip to New York and vicinity where he has been engaged in a preliminary investigation of the so-called "Argentine weevil."

Mr. D. E. Fink has been engaged for some time on a new project,--the fumigation of insects affecting stored products by means of ammonia gas. Considerable progress has been made.

INTRODUCTION OF NATURAL ENEMIES.

Another project has been undertaken in the line of the introduction of the braconid parasite Apanteles glomeratus, referred to in circular No. 60 of this Bureau, in regions where it has not yet been found. We have been somewhat surprised to find that this parasite is not known to any extent in Kansas, and is apparantly totally absent in California. Any employee of the Bureau who has opportunities for observing this parasite and its cocoons will do a favor by sending living specimens direct to the Bureau of Entomology, U.S. Department of Agriculture, for rear-

ing and sending to other localities. Cooperation is cordially invited.

A NEW SELF-PROPELLED SPRAYER.

Work on a self-propelled truck-crop sprayer is being pushed forward rapidly and the machine will soon be available for experimental spraying. The construction is quite different from anything previously attempted along this line, a broad-tired, three-wheeled truck of channel iron, carrying a plunger type spray pump, with 100-gallon tank, being projected. It is designed that this machine when complete will enable the handling of a large acreage of truck crops and that it can be operated by one man and possibly a helper. It is especially adapted for treatment of onions and other crops likely to be damaged by horse-drawn vehicles, and may be used for other work, as for example, as a power plant for onion toppers or similar machinery.

Quarantine Notices.

The following quarantine notices have been issued by the Federal Horticultural Board and are in operation:

No. 1. "White Pine Blister Rust."
(Superseded by No. 7).

No. 2. "Mediterranean Fruit Fly."
(Superseded by No. 13).

No. 3. "Potato Wart."
(Forbids the importation of the Irish potato from Newfoundland; the islands of St. Pierre and Miquelon; Great Britain, including England, Scotland, Wales, and Ireland; Germany; and Austria-Hungary, owing to the existence in the countries named or the disease known as "potato wart," "potato canker," "black scab," etc., Chrysophlyctis endobiotica, Schilb. (Synchytrium endobioticum (Schilb.) Perc.).

No. 4. "Gypsy Moth and Brown-Tail Moth."
(Superseded by No. 10).

No. 5. "Mexican Fruit Fly." (As amended by Amendment No. 1).
(Forbids the importation of oranges, sweet limes, mangoes, Achras sapotes, peaches, guavas, plums, and grapefruit, from Mexico, on account of the presence of the Mexican fruit fly (Trypeta ludens) in Mexico).

No. 6. "Date Palm Scale Insects."
(Orders that the interstate movement of date palms, or date-

palm offshoots, from any point in the areas quarantined to any point not therein shall be made only in accordance with the rules and regulations prescribed, on account of the existence in the areas quarantined of two scale insects, Parlatoria blanchardi and Phoenicococcus marlatti, on date palms. The areas quarantined are as follows:

In California: Riverside County, east of the San Bernardino meridian; Imperial County.

In Arizona: Yuma County; Maricopa County; Pinal County.

In Texas: Webb County.

No. 7. "White Pine Blister Rust." Supersedes No. 1).

(Forbids the importation from Europe and Asia of all five-leafed pines, on account of the existence in certain countries of a disease known as the "white pine blister rust" (Peridermium strobi).

No. 8. "Pink Boll Worm of Cotton." (See No. 9).

(Forbids the importation of cotton seed of all species and varieties and cotton seed hulls from any foreign locality and country excepting only the locality of the Imperial Valley in the State of Lower California in Mexico, on account of the existence in foreign countries of the pink boll worm (Gelechia gossypiella).

(Amendments Nos. 1 and 2 permit the importation of cotton seed (including seed cotton) and cotton seed hulls from the States of Nuevo Leon, Coahuila, Durango, Chihuahua, and Tamaulipas, Mexico, for manufacturing purposes only).

(Amendment No. 2 gives amended regulations government the entry of cotton seed (including seed cotton) and cotton seed hulls from all six Mexican States above named.)

No. 9. "Pink Boll Worm of Cotton." (See No. 8).

(Forbids the movement from Hawaii into or through any other State, Territory, or District of the United States of all cotton seed and cotton seed hulls, on account of the existence of the pink boll worm (Gelechia gossypiella) in this insular possession.

No. 10. "Gipsy Moth and Brown-Tail Moth." (Supersedes No. 4).

(Orders that the articles named in the quarantine notice shall not be moved or allowed to move interstate from any point in the areas quarantined and named in the notice of quarantine to any point not therein except in accordance with the rules and regulations named in the notice, on account of the existence in the quarantined areas of the gipsy moth (Porthetria dispar) and the brown-tail moth (Euproctis chrysorrhoea).

No. 11. "Potato Quarantine."

(Including Amendments Nos. 1 to 4).

(Forbids the importation of the Irish potato from Canada, Newfoundland, the islands of St. Pierre and Miquelon, Great Britain, Ireland, and Continental Europe, on account of injurious potato diseases, including powdery scab (Spongospora subterranea). All of Den-

mark except island of Bornholm released from quarantine).
(Potatoes may be imported without restriction from any country into Porto Rico).

No. 12. "Avocado Seed Quarantine."
(Forbids the importation from Mexico and the countries of Central America of the seeds of the avocado or alligator pear, on account of the existence in Mexico of the avocado weevil (Heilipus lauri).

No. 13. "Mediterranean Fruit Fly and Melon Fly." (Supersedes No. 2).
(Prohibits the movement from Hawaii into or through any State, Territory, or District of the United States other than Hawaii of any fruit or vegetable upon which the Mediterranean fruit fly or the melon fly breeds, or which may carry infestation. Certain fruits, etc., specifically named. Bananas and pineapples, however, may be moved from Hawaii as prescribed by the regulations set forth in notice of quarantine.

No. 14. "Powdery Scab of Potato."
(Orders that the Irish potato shall not be moved or allowed to move from Maine into or through any other State, Territory, or District of the United States except under rules and regulations to be made). Cause, powdery scab in Maine. Effective August 1, 1914.

No. 15. "Sugar Cane Quarantine (Foreign)." See NO. 16.
(Forbids the importation from all foreign countries of living canes of sugar canes, or cuttings or parts thereof, on account of existence of injurious insects and fungous diseases). This does not apply to Hawaii and Porto Rico.

No. 16. "Sugar Cane Quarantine." (Domestic). (See No. 15).
(Forbids the movement from Hawaii and Porto Rico into or through any other State, Territory or District of the United States of living canes of sugar cane, or cuttings or parts thereof, owing to exception of those Territories under Quarantine No. 15, and on account of existence in these possessions of injurious insects and fungous diseases).